

CHICAGO
Electric®

SOLDERING STATION

Model 96375

ASSEMBLY AND OPERATION INSTRUCTIONS



Due to continuing improvements, actual product may differ slightly from the product described herein.



3491 Mission Oaks Blvd., Camarillo, CA 93011

Visit our website at: <http://www.harborfreight.com>

**TO PREVENT SERIOUS INJURY, READ AND UNDERSTAND
ALL WARNINGS AND INSTRUCTIONS BEFORE USE.**

Copyright© 2007 by Harbor Freight Tools®. All rights reserved. No portion of this manual or any artwork contained herein may be reproduced in any shape or form without the express written consent of Harbor Freight Tools.

For technical questions or replacement parts, please call 1-800-444-3353.

SPECIFICATIONS

Construction	Formed/Stamped Steel Plate & Sheet High Impact Thermoplastic Unit Steel Bar Rubber/Thermoplastic Grip Copper Wiring
Finish	Black Thermoplastic & Rubber Coating
Overall Dimensions	Station: 6-3/4" L X 4-1/2" W X 3-3/4" H Handle: 7-3/8" L X .920" Tip: 1-11/16" L X .238"
Temperature Range	200°~480°C (7 settings) 392°~896°F (6 settings)
Power Source	110 VAC//60 Hz
Power Cord	3'9" 18 AWG X 3C
Weight	4.2 Pounds

Save This Manual

You will need this manual for the safety warnings and precautions, assembly, operating, inspection, maintenance and cleaning procedures, parts list and assembly diagram. Keep your invoice with this manual. Write the invoice number on the inside of the front cover. Write the product's serial number in the back of the manual near the assembly diagram, or write month and year of purchase if product has no number. Keep this manual and invoice in a safe and dry place for future reference.

GENERAL SAFETY RULES

 **WARNING!**

READ AND UNDERSTAND ALL INSTRUCTIONS
Failure to follow all instructions listed below may result in
electric shock, fire, and/or serious injury.
SAVE THESE INSTRUCTIONS

WORK AREA

1. **Keep your work area clean and well lit.** Cluttered benches and dark areas invite accidents.
2. **Keep children and visitors away while operating this tool.** Distractions can cause you to lose control. Never allow children to operate the Soldering Station.
3. **Do not operate the Soldering Station in explosive atmospheres, such as in the presence of flammable liquids, gases, or dust, or near flammable items.** The intense heat generated by the Soldering Station can ignite flammable materials.

ELECTRICAL SAFETY

1. **Grounded tools must be plugged into an outlet properly installed and grounded in accordance with all codes and ordinances. Never remove the grounding prong or modify the plug in any way. Do not use any adapter plugs. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded.** If the tools should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user.
2. **Avoid body contact with grounded surfaces such as pipes, radiators, ranges, and refrigerators.** There is an increased risk of electric shock if your body is grounded.
3. **Do not expose power tools to rain or wet conditions.** Water entering a power tool will increase the risk of electric shock.
4. **Do not abuse the Power Cord. Never use the Power Cord to carry the tools or pull the Plug from an outlet. Keep the Power Cord away from heat, oil, sharp edges, or moving parts. Replace damaged Power Cords immediately.** Damaged Power Cords increase the risk of electric shock.
5. **When operating a power tool outside, use an outdoor extension cord marked “W-A” or “W”.** These extension cords are rated for outdoor use, and reduce the risk of electric shock.

PERSONAL SAFETY

1. **Stay alert. Watch what you are doing, and use common sense when operating a power tool. Do not use a power tool while tired or under the influence of drugs, alcohol, or medication.** A moment of inattention while operating power tools may result in serious personal injury.
2. **Dress properly. Do not wear loose clothing or jewelry. Contain long hair. Keep your hair, clothing, and gloves away from moving parts.** Loose clothes, jewelry, or long hair can be caught in moving parts.
3. **Avoid accidental starting. Be sure the Power Switch is off before plugging in.** Plugging in power tools with the Power Switch on, invites accidents.
4. **Do not overreach. Keep proper balance at all times.** Proper footing and balance enables better control of the power tool in unexpected situations.
5. **Work in a well-ventilated area.** Soldering fumes can be hazardous.
6. **Use safety equipment. Always wear eye protection.** Dust mask, heavy-duty work gloves, nonskid safety shoes, hard hat, or hearing protection must be used for appropriate conditions. Always wear ANSI-approved safety goggles and a dust mask/respirator when using or performing maintenance on this tool.

TOOL USE AND CARE

1. **Use clamps (not included) or other practical ways to secure and support the workpiece to a stable platform.** Holding the work by hand or against your body is unstable and may lead to loss of control.
2. **Do not force the tool. Use the correct tool for your application.** The correct tool will do the job better and safer at the rate for which it is designed. Do not force the tool and do not use the tool for a purpose for which it is not intended.
3. **Do not use the power tool if the Power Switch does not turn it on or off.** Any tool that cannot be controlled with the Power Switch is dangerous and must be replaced.
4. **Disconnect the Power Cord Plug from the power source before making any adjustments, changing accessories, or storing the tool.** Such preventive safety measures reduce the risk of starting the tool accidentally. **Always unplug the tool from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.**
5. **Store idle tools out of reach of children and other untrained persons.** Tools are dangerous in the hands of untrained users.
6. **Check for breakage of parts, and any other condition that may affect the tool's operation. If damaged, have the tool serviced before using.** Many accidents are caused by poorly maintained tools.
7. **Only use soldering tips that are recommended by the manufacturer for your model.** Accessories that may be suitable for one tool may become hazardous when used on another tool.

SERVICE

1. **Tool service must be performed only by qualified repair personnel.** Service or maintenance performed by unqualified personnel could result in a risk of injury.
2. **When servicing a tool, use only identical replacement parts. Follow instructions in the “*Inspection, Maintenance, And Cleaning*” section of this manual.** Use of unauthorized parts or failure to follow maintenance instructions may create a risk of electric shock or injury.

SPECIFIC SAFETY RULES

1. **Maintain labels and nameplates on the tool.** These carry important information. If unreadable or missing, contact Harbor Freight Tools for a replacement.
2. **Maintain a safe working environment.** Make sure there is adequate surrounding workspace. Do not use this product in a damp or wet location.

3. **Always keep the extension cord away from heated parts of the tool.**
4. **Never leave the tool unattended when it is plugged into an electrical outlet.** Turn off the tool, and unplug it from its electrical outlet before leaving.
5. **Use caution when handling the Soldering Tip; it comes to a sharp point and is especially dangerous when heated.**
6. **WARNING: This product, when used for welding, plasma cutting, soldering, or similar applications, produces chemicals known to the State of California to cause cancer and birth defects (or other reproductive harm).** (California Health & Safety Code § 25249.5, *et seq.*)

GROUNDING

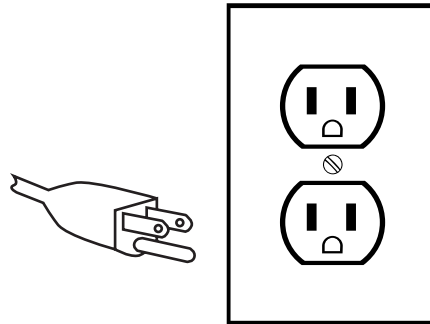
 **WARNING!**

Improperly connecting the grounding wire can result in the risk of electric shock. Check with a qualified electrician if you are in doubt as to whether the outlet is properly grounded. Do not modify the power cord plug provided with the tool. Never remove the grounding prong from the plug. Do not use the tool if the power cord or plug is damaged. If damaged, have it repaired by a service facility before use. If the plug will not fit the outlet, have a proper outlet installed by a qualified electrician.

GROUNDING TOOLS: TOOLS WITH THREE PRONG PLUGS

1. Tools marked with “Grounding Required” have a three wire cord and three prong grounding plug. The plug must be connected to a properly grounded outlet. If the tool should electrically malfunction or break down, grounding provides a low resistance path to carry electricity away from the user, reducing the risk of electric shock. **(See 3-Prong Plug and Outlet.)**
2. The grounding prong in the plug is connected through the green wire inside the cord to the grounding system in the tool. The green wire in the cord must be the only wire connected to the tool’s grounding system and must never be attached to an electrically “live” terminal. **(See 3-Prong Plug and Outlet.)**

3. Your tool must be plugged into an appropriate outlet, properly installed and grounded in accordance with all codes and ordinances. The plug and outlet should look like those in the following illustration. **(See 3-Prong Plug and Outlet.)**



3-Prong Plug and Outlet




EXTENSION CORDS

1. **Grounded** tools require a three wire extension cord. **Double Insulated** tools can use either a two or three wire extension cord.
2. As the distance from the supply outlet increases, you must use a heavier gauge extension cord. Using extension cords with inadequately sized wire causes a serious drop in voltage, resulting in loss of power and possible tool damage. **(See Table A.)**
3. The smaller the gauge number of the wire, the greater the capacity of the cord. For example, a 14 gauge cord can carry a higher current than a 16 gauge cord. **(See Table A.)**
4. When using more than one extension cord to make up the total length, make sure each cord contains at least the minimum wire size required. **(See Table A.)**
5. If you are using one extension cord for more than one tool, add the nameplate amperes and use the sum to determine the required minimum cord size. **(See Table A.)**
6. If you are using an extension cord outdoors, make sure it is marked with the suffix “W-A” (“W” in Canada) to indicate it is acceptable for outdoor use.
7. Make sure your extension cord is properly wired and in good electrical condition. Always replace a damaged extension cord or have it repaired by a qualified electrician before using it.
8. Protect your extension cords from sharp objects, excessive heat, and damp or wet areas.

RECOMMENDED MINIMUM WIRE GAUGE FOR EXTENSION CORDS* (120 OR 240 VOLT)					
NAMEPLATE AMPERES (at full load)	EXTENSION CORD LENGTH				
	25 Feet	50 Feet	75 Feet	100 Feet	150 Feet
0 – 2.0	18	18	18	18	16
2.1 – 3.4	18	18	18	16	14
3.5 – 5.0	18	18	16	14	12
5.1 – 7.0	18	16	14	12	12
7.1 – 12.0	18	14	12	10	-
12.1 – 16.0	14	12	10	-	-
16.1 – 20.0	12	10	-	-	-

TABLE A * Based on limiting the line voltage drop to five volts at 150% of the rated amperes.

SYMBOLOLOGY

	Double Insulated
	Canadian Standards Association
	Underwriters Laboratories, Inc.
V~	Volts Alternating Current
A	Amperes
n ₀ xxxx/min.	No Load Revolutions per Minute (RPM)

UNPACKING

When unpacking, check to make sure that the item is intact and undamaged. If any parts are missing or broken, please call Harbor Freight Tools at the number shown on the cover of this manual as soon as possible.

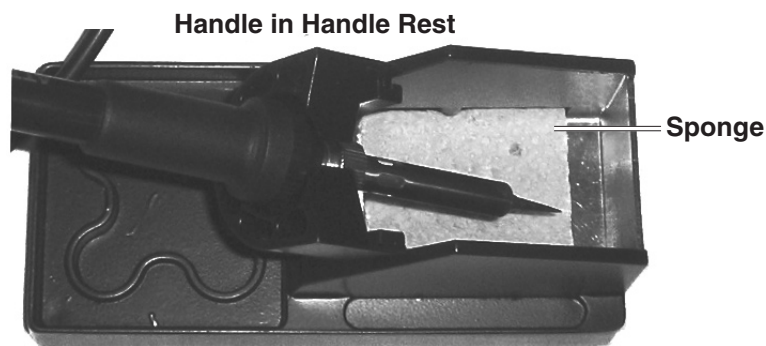
ASSEMBLY INSTRUCTIONS

Note: For additional information regarding the parts listed in the following pages, refer to the Assembly Diagram near the end of this manual.

1. **⚠️ WARNING!** Make sure the Power Switch (8) of the Soldering Station is in the “OFF” position and that the tool is unplugged from an electrical outlet before making any adjustments to the tool.
2. Match up holes in Soldering Cord Sleeve (28) to pins in Soldering Cord Connection (7), plug in, and secure with Soldering Cord Retainer (29).
3. Place Sponge in the bottom of the handle rest reservoir.
4. Set up handle rest within easy reach of the Soldering Station.
5. Plug Soldering Station into any standard, 110V AC electrical outlet.

OPERATION INSTRUCTIONS

1. Check for breakage, worn parts, damaged power cords, or any other condition that may affect the tool’s operation. If damaged, have the tool serviced before using.
2. Tighten the Tip Retainer (25) on the Soldering Tip.
3. Select the correct solder for the intended use. Read the directions for the solder being used to determine the temperature level that the Soldering Station needs to be set at. To minimize the risk of damage to surrounding components, select the minimum heat required to melt the solder chosen for the application.
4. Plug Soldering Station in and turn Power Switch (8) to the “ON” position. Set the desired temperature with the Temperature Dial (5).
5. Place Handle on the Rest and wait about 1 minute, 20 seconds until Soldering Tip heats up.



Preparing the metal to be soldered

6. If wires are to be soldered, thoroughly clean and scrape the wires so that only the clean copper is showing. Splice wires that are to be soldered together.

7. If other metals are to be soldered, thoroughly clean and scrape the metal surfaces. It may be necessary to apply acid flux (not included) to clean the metal surfaces before soldering.

Note: If soldering on printed circuit boards, too much heat can soften the plastic form or loosen the metal eyelet connections. Use the lowest heat setting possible (see manufacturer's directions) to perform the soldering operation. Never use acid core solder or acid flux on wiring circuits.

8. If uncertain on how to proceed, it may be wise to practice on a scrap workpiece first. Place the Soldering Tip on the wiring, joint, or metal to be soldered.
9. Apply solder to the joint, wiring, or metal to be soldered, **not** to the Soldering Tip. When the metal is hot enough, it will melt the solder and allow it to flow around the wiring or metal being soldered. Slowly move Soldering Tip around to coat the entire area being soldered.
10. When the entire wiring or metal surface is encased in solder, remove the Soldering Tip and place in Rest.
11. Allow the soldering to cool completely before pulling gently on the item to ensure a secure hold.
12. When you are finished soldering, wipe the Soldering Tip thoroughly on the Sponge and apply a small amount of rosin-core solder to coat the Soldering Tip and keep it clean.

Soldering Tips

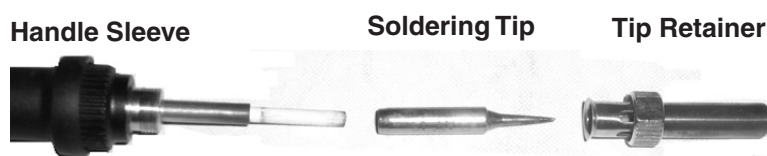
1. The soldering process bonds two metal objects together using a metallic bonding material (solder) which has a lower melting point than the items being joined. Soldering is not appropriate for non-metallic objects such as plastic or wood.
2. Check to be sure the objects being joined will not be damaged by the heat of soldering. This tool generates a temperature up to 896° F. Test a scrap piece or inconspicuous area of your work piece with the soldering tip before proceeding.
3. Be sure the surfaces being soldered are clean before beginning. If necessary, use a soldering flux (not included) for cleaning. Apply the flux to the parts being joined, and heat the parts until the flux burns away.
4. Heat the parts being joined with the soldering tool, not the solder. Once the parts being joined are sufficiently heated, touch the solder to the work pieces. The solder will melt and adhere to the work pieces. Remove the soldering tip from the work pieces, and hold the pieces together until they have cooled enough for the solder to solidify.
5. Solder will "follow the heat". Once a workpiece is sufficiently hot to melt the solder, the solder can be dragged along the workpiece by moving the soldering tip. The

solder will follow the heat. This technique is helpful when soldering joints, such as a tube in a coupling. By applying solder to the edge of the coupling and then moving the soldering tip away from the edge, solder can be dragged into a concealed joint as it follows the heat.

6. **LEAD WARNING:** Some solders contain lead and some do not. Be extremely careful not to breathe vapors from any solder, especially ones containing lead. Lead is a heavy metal which can accumulate in the body and cause serious health problems.
7. Solder is available in various types. Some solders have a flux core and some do not. Flux core solders contain flux and reduce the need to clean the work pieces before joining. Solid core solders do not contain flux, and require careful cleaning of the work material, and application of flux for additional cleaning.
8. Solder is available in various melting points. The heat range of solder may be expressed in temperature, or may be expressed as “easy,” “medium” or “hard”. When making several solder joints on a single workpiece, you may use a mix of solder temperatures. “Easy” solder will melt before “medium”, “medium” will melt before “hard”, and “hard” will melt at only the highest temperatures.

Replacing the Soldering Tip

1. Turn Power Switch (8) to the “OFF” position and unplug the Soldering Station from the electrical outlet. Allow adequate time for all surfaces to cool down.
2. Unscrew Soldering Cord Retainer (29) from Soldering Cord Connection (7).
3. Unscrew Tip Retainer (25) holding Soldering Tip onto Handle Sleeve (24) and remove. Remove the Soldering Tip.
4. Place new Soldering Tip on Handle Sleeve, replace Tip Retainer, and secure firmly. Do not overtighten.



INSPECTION, MAINTENANCE, AND CLEANING

1. **⚠️ WARNING!** Make sure the Power Switch of the tool is in its “OFF” position and that the tool is unplugged from its electrical outlet before performing any inspection, maintenance, or cleaning procedures.
2. **BEFORE EACH USE,** inspect the general condition of the tool. Check for loose screws, misalignment or binding of moving parts, cracked or broken parts, dam-

aged electrical wiring, and any other condition that may affect its safe operation. If abnormal noise or vibration occurs, have the problem corrected before further use. **Do not use damaged equipment.**

3. The tip should be cleaned periodically during use with a damp sponge.
4. After use, allow the Soldering Tip and all accessories to cool down to room temperature before performing maintenance or being stored.
5. Wipe the tool down with a damp cloth to remove any grease, flux or dirt.
6. If Soldering Tip cracks or becomes eroded it must be replaced. The Soldering Tip cannot heat up properly when cracked or eroded.

PLEASE READ THE FOLLOWING CAREFULLY

THE MANUFACTURER AND/OR DISTRIBUTOR HAS PROVIDED THE PARTS LIST AND ASSEMBLY DIAGRAM IN THIS MANUAL AS A REFERENCE TOOL ONLY. NEITHER THE MANUFACTURER OR DISTRIBUTOR MAKES ANY REPRESENTATION OR WARRANTY OF ANY KIND TO THE BUYER THAT HE OR SHE IS QUALIFIED TO MAKE ANY REPAIRS TO THE PRODUCT, OR THAT HE OR SHE IS QUALIFIED TO REPLACE ANY PARTS OF THE PRODUCT. IN FACT, THE MANUFACTURER AND/OR DISTRIBUTOR EXPRESSLY STATES THAT ALL REPAIRS AND PARTS REPLACEMENTS SHOULD BE UNDERTAKEN BY CERTIFIED AND LICENSED TECHNICIANS, AND NOT BY THE BUYER. THE BUYER ASSUMES ALL RISK AND LIABILITY ARISING OUT OF HIS OR HER REPAIRS TO THE ORIGINAL PRODUCT OR REPLACEMENT PARTS THERETO, OR ARISING OUT OF HIS OR HER INSTALLATION OF REPLACEMENT PARTS THERETO.

LIMITED 90 DAY WARRANTY

Harbor Freight Tools Co. makes every effort to assure that its products meet high quality and durability standards, and warrants to the original purchaser that this product is free from defects in materials and workmanship for the period of 90 days from the date of purchase. This warranty does not apply to damage due directly or indirectly, to misuse, abuse, negligence or accidents, repairs or alterations outside our facilities, criminal activity, improper installation, normal wear and tear, or to lack of maintenance. We shall in no event be liable for death, injuries to persons or property, or for incidental, contingent, special or consequential damages arising from the use of our product. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above limitation of exclusion may not apply to you. THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER WARRANTIES, EXPRESS OR IMPLIED, INCLUDING THE WARRANTIES OF MERCHANTABILITY AND FITNESS.

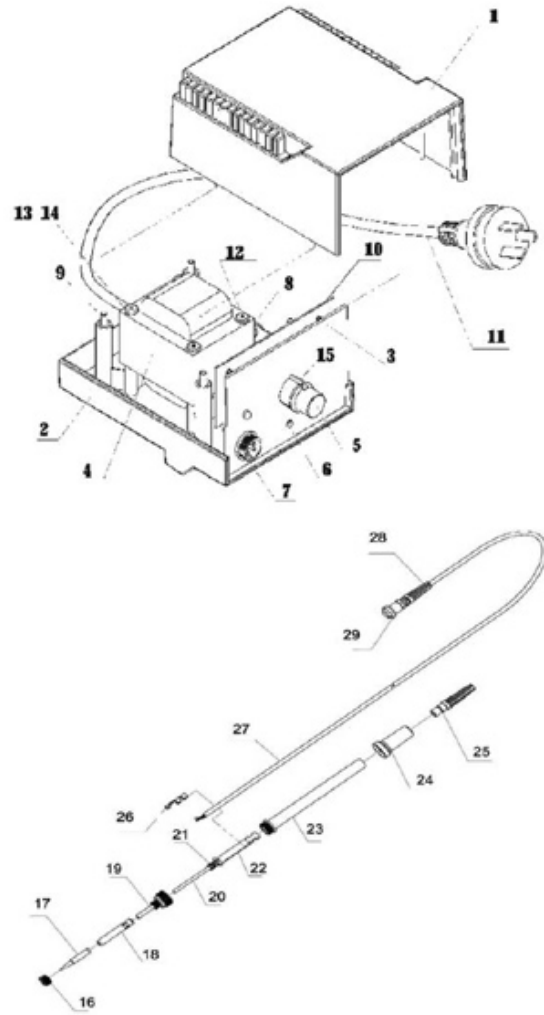
To take advantage of this warranty, the product or part must be returned to us with transportation charges prepaid. Proof of purchase date and an explanation of the complaint must accompany the merchandise. If our inspection verifies the defect, we will either repair or replace the product at our election or we may elect to refund the purchase price if we cannot readily and quickly provide you with a replacement. We will return repaired products at our expense, but if we determine there is no defect, or that the defect resulted from causes not within the scope of our warranty, then you must bear the cost of returning the product.

This warranty gives you specific legal rights and you may also have other rights which vary from state to state.

3491 Mission Oaks Blvd. • PO Box 6009 • Camarillo, CA 93011 • (800) 444-3353

PARTS LIST AND ASSEMBLY DIAGRAM

Part	Description	Qty
1	Shell	1
2	Base	1
3	Panel	1
4	Transformer	1
5	Temperature Dial	1
6	Rubber Plug	1
7	Soldering Cord Connection	1
8	Power Switch	1
9	Screw PT4x2	4
10	PCB Board	1
11	Power Wire	1
12	Screw PT3.5x48	4
13	Press Board	1
14	Press Screw PT3x8	1
15	Axis Sleeve	1
16	Screw Sleeve	1
17	Iron Tip	1
18	Stainless Steel Sleeve	1
19	Bakelite Contact	1
20	Heat Wire Group	1
21	Grounding Spring	1
22	PCB Board	1
23	Handle	1
24	Handle Sleeve	1
25	Tip Retainer	1
26	Fastener	1
27	Silica Gel Wire	1
28	Soldering Cord Sleeve	1
29	Soldering Cord Retainer	1



Record Product's Serial Number Here: _____

Note: If product has no serial number, record month and year of purchase instead.

Note: Some parts are listed and shown for illustration purposes only, and are not available individually as replacement parts.